

IN THE CLAIMS

1. (original): A method for increasing the level of 4-desmethyl sterols in a plant which has been modified to increase the production of 4-monomethyl and/or 4,4-dimethyl sterols compared to the wild type plant, which method comprises increasing the enzymatic demethylation of 4-monomethyl and 4,4-dimethyl sterols by increasing the activity of C4SMO in the plant by increased expression of a gene coding for C4SMO.
2. (original): A method as claimed in Claim 1, wherein the plant has increased HMGR activity compared to the wild type plant.
3. (original): A method as claimed in Claim 1 or Claim 2, wherein the plant has increased SMT1 activity compared to the wild type plant.
4. (currently amended): A method as claimed in ~~any one of Claims 1 to 3~~ Claim 1 or Claim 2, wherein the 4-desmethyl sterols are selected from betasitosterol, sitostanol, stigmasterol, brassicasterol, campestanol, isofucosterol, campesterol, episterol and mixtures thereof.
5. (original): A method as claimed in Claim 1 wherein the gene is a heterologous gene.
6. (original): A method as claimed in Claim 1 wherein the gene coding for C4SMO is derived from *Arabidopsis*.
7. (currently amended): A method as claimed in ~~any one of Claims 1 to 6~~ Claim 1 or Claim 2 wherein the plant is tobacco, canola, sunflower, rape or soy.

8. (original): A method of transforming a plant which has been modified so as to incorporate a non-feed back inhibited HMGR gene in combination with sterolmethyltransferase 1, which comprises:

- (a) transforming a plant cell with a recombinant DNA construct comprising a DNA segment encoding a polypeptide with C4SMO activity and a promoter for driving expression of said polypeptide in said plant cell, to form a transformed plant cell;
- (b) regenerating the transformed plant cell into a transgenic plant; and
- (c) selecting transgenic plants that have enhanced levels of 4-desmethyl sterols compared to wild type strains of the same plant.